

Health Promotion Model for the Elderly in Flood with a mudslide area in Thailand

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ABSTRACT

Introduction: *The health problems of the elderly that will be a contributing factor to the illness and the deterioration of the body*

Objective: *This research aimed to study a health promotion model for the elderly in flood area with a mudslide at Uttaradit Province, Thailand.*

Methodology: *The first stage of the study involved an aging population aged 60 year and over of 62 people experienced in a mudslide of 2006, who completed a structured interview based on the health promotion behaviors (HPBs). In addition, twelve participants formed a focus group to explore in detail on the HPBs. Based on the results of the structured interviewing and focus group discussions a Health Promotion Model (HPM) was developed on the second stage of the study. The third stage, The HPM was implemented among the aging participants. During the third stage, qualitative and quantitative methods were used to test the success of the HPM for the elderly in flood area with mudslide.*

Results: *showed that HPBs was at a high level, but the dimension of activity and exercise, and mental development were at a moderate level and the participants were not concerned about the importance of HPBs, and did not take positive action towards HPBs and still remembering the past, the flood 10 years ago which no impact to their life.*

Conclusion: *this study suggested that the effectiveness of this Health Promotion Model is to be encouraged to promote sustainable the HPBs of elderly.*

Keywords: *Health Promotion Model, Elderly, Flood area, Mudslide*

I. Introduction

Aging is considered a normally developmental process for humans; however, aging does increase risk for chronic diseases and poor quality of life overall. The aging process results in an increased risk for non-communicable disease such as diabetes mellitus, hypertension and heart disease. This situation gets worse when it occurs in under developed and developing countries where there is insufficient health care coverage for the elderly. (Dennis, 1984) In Thailand, the number of elderly is rapidly increasing as a result of improved life span. In a report by the Thai's Nation Statistic Office (2005), it was noted that the life expectancy of males in

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Thailand reached 71.2 years; meanwhile female life expectancy reached 77.6 years. These findings reflect the trend of aging within Thai society and reinforces the need to provide health care services to address chronic disease which occur in later years. The factors contributing to good mental health are the benefits of an aging society. This statement indicates that social support among the group of old people, suffering due to aging process can be relieved. Therefore, interventions to improve the skills of living with aging process should be identified and used to assist older adults by increasing self-confidence and the ability to cope with circumstances of aging. Moreover, assisting older adults in the aforementioned areas may result in maintained and improved health, well-being, and quality of life (Fries, 1990).

At present, the world has encountered many natural disasters in the past. It was found that the elderly were significantly more affected than other groups. The cause of death is mostly due to the rapidly deteriorating health of the poor living conditions, lack of medication and combined with an unhealthy body. Therefore, easy complication effects of disasters also have significant psychological effects. One psychological effect is stressful symptoms after a shocking event (Post-traumatic Stress Disorder: PTSD). In 2006, floods and mudslides occurred in the lower northern provinces in Uttaradit province, where the most affected areas occurred in all 3 districts at the same time, namely Lap Lae, ThaPla and Muang Uttaradit. In the mudslide, 29.3 percent of critically ill people with mental health problems were found to have post-traumatic stress (PTSD) 10.7% had depression, 3.3% and alcohol dependence 11.6% (BanruSiriphanich, 2014). In areas affected by the flood and mudslides on May 22, 2006, 19 houses were muddy and killed and 60 houses were damaged, according to the research report. To see the condition that is already a mental health problem. There are still many other health problems. From 10 years after the flood, mudslides found that some relocation. But mostly still at the same place People have a better way of life. But has been taken care of thoroughly since it is a small village in the countryside, far from the city of Uttaradit 80 kilometers and from the health situation survey of Ban Namlee Hospital together with nursing students, Boromarajonani College of Nursing, Uttaradit in 2016. It was found that Ban Nam Lee has 86 elderly people, accounting for 14 percent of the total population. Considered an aging society and there are group of social bound, homebound and bed bound of the elderly. The elderly stick to bed ridden and having depression suffer from hypertension and diabetes disease. It was also found that the elderly were alone and lacked counselors, and having the burden of raising grandchildren alone from their children working in Bangkok, and the part that experienced the flood both directly at the scene with oneself, the scene group with relatives still thinking of the losses in the floods, mudslides, lack of proper exercise, also working hard in agriculture, with the data survey during the community development camp in December 2016 of Boromarajonani College of Nursing, it was found that there were patients at home, Bed-bound group, patient and many elderly patients in the community, and the elderly still miss their relatives and the losses in the last 10 years. They still do not forgotten (Bannamlee hospital, 2016) which will bring about the health problems of the elderly that will be a contributing factor to the illness and the deterioration of the body. Therefore, in the study of health promotion behavior among the elderly in the Nam Lee village. This will help to obtain information about the health promotion behavior of the elderly experienced flood with mudslide in the community and be used as a guide to help and monitoring make plans to promote a more healthy lifestyle.

II. Objectives

The objectives of the study were 1) to explore the elderly experienced in a mudslide' health promotion behaviours and related factors, 2) to develop a model of Health Promotion for the elderly experienced in a mudslide, and 3) to evaluate the effectiveness of the model of Health Promotion Behaviors for the elderly experienced in a mudslide by using model and comparing between average scores of behaviors regarding health promotion at certain times before and after involving intervention immediately and 3 months. In addition, the satisfaction toward the model of Health Promotion for elderly experienced in a mudslide was examined.

III. Methodology

Design: This study employed mixed methods with a combination of qualitative and quantitative experimental design . It was divided into three stages including, exploring the elderly experienced in a mudslide' health promotion behaviours and related factors, developing a model of Health Promotion for the elderly experienced in a mudslide, and evaluating the effectiveness of the program developed. This study was implemented in Uttaradit Province, Thailand.

Population and Sample: Populations in this study were the elderly experienced in a mudslide with an age of 60 years and over. The samples were differently selected according to different stage as following.

Stage I: There were all 62 elderly experienced in a mudslide with 60 years and over participating in this stage. Initially, 62 were interviewed –reported, and twelve participants (60 years and over) formed a focus group to explore in detail HPBs and related factors.

Stage II: Twelve participants were purposively selected from different groups relevant to aging groups provided by various organizations (stakeholders) including one health worker from the Community Health Promotion Hospital, one teacher from community school ,one health worker from subdistrict administration institute ,three members representative of the sub -district aging club, three committees of temple representative from community temple,a head monk of community temple, one community committee representative ,and a head of community.Selected participants were invited to join a focus group with the aimed to identify an appropriate model of health promotion for the elderly

Stage III: Twenty volunteer participants randomly selected with a consideration of active aging, from the initial 62 aging (60 years and over) were invited to join the trial sample group.

Research implementation

Stage I: A cross-sectional survey and a focus group

This stage involved a cross-sectional survey using structured interviewed form which were designed, based on Pender's Health Promotion Model (Pender, 2006), to access health promotion behaviors. The structured interviewed guideline were administrated to 62 elderly experienced in a mudslide of 2006 in this community area.

In addition, this stage also involved a focus group to explore participants' perceptions about the meaning of health, key element of health promotion behaviors, and their needs for their health.

The quantitative data was analysed using descriptive statistical analysis including frequency, percentage, mean and, standard deviation. Meanwhile, the qualitative data was analysed using thematic analysis. The results of these analyses were used to develop a Health Promotion Model for the Elderly experienced in mudslide area

Stage II: Construction of the model for Health Promotion

This stage involved the process to construct a model of health promotion addressed the group of elderly experienced in a mudslide. A draft model of Health Promotion for elderly experienced in a mudslide was developed by the researcher, based on the finding from the first stage constructed model, in addition, was based on the Empowerment Concept (Fleury, 1991) with an integration of the Protection Motivation Theory (PMT) (Rogers, 1983). Moreover, the draft model was criticized for particular group appropriated by stakeholders with focus group discussion. Finally, the constructed model was reviewed by the experts to be ready for using 3 months.

Stage III: Evaluation of the effectiveness of the model of Health Promotion

This stage involved an implementation of constructed model of health promotion and evaluated model's effectiveness. Twenty voluntary participants were enrolled in the intervention 3 months for using a workshop. Three phases of the workshop were set up in different period, twice Buddhist Holy Day per month (on the New Moon and Full Moon) following Buddhist way of the community, as 2-day module at the beginning in the first month, 2 day module at one month after the first module, and two day module at two months after the first module.

This stage consisted of a seminar with an emphasis of health education and health promoting behavior lifestyle program. The health education focused on the effect of aging process and health promotion behaviors in related to health, especially, an activity and exercise, and mental health development. To evaluate the efficacy of developed program, there was a measurement of several indicators include behaviors by using constructed interview guideline and knowledge, attitude from focus group discussion

Evaluation of developed program was implemented three different times: before implementing program, at the end of implementing program (immediately post using), and three months after post using program.

The quantitative data was analysed using descriptive statistical analysis including frequency, percentage, mean, standard deviation, and paired t-test. Meanwhile, the qualitative data was analysed using thematic analysis.

Ethics Statement

Ethical clearance was obtained from the Uttaradit Provincial Health office and Ethics Committee (IRB COA 004/62, UPHO REC 004/62). The objectives, benefits and risks of the study were explained to the study participants and informed consent obtained. All data obtained during the study were treated with confidentiality and anonymity. We restricted data access to only the investigators and the research assistants.

IV. Results:

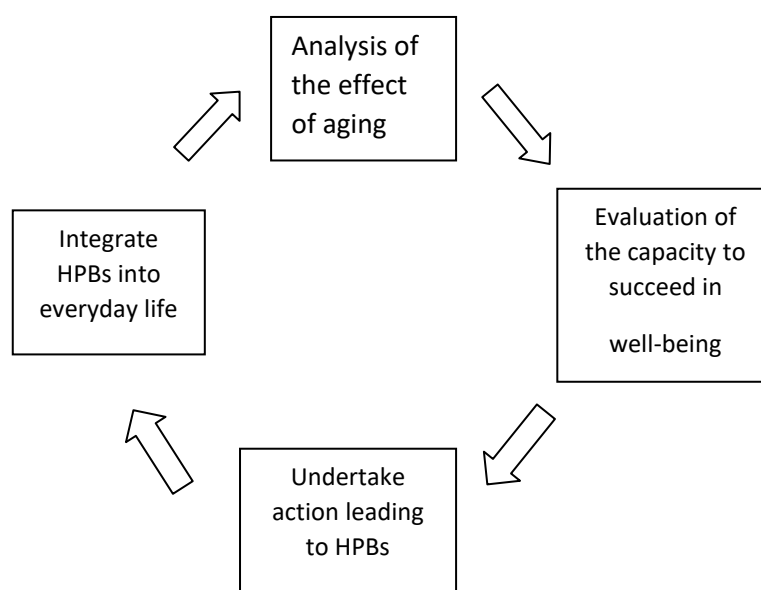
The findings showed that before development of this model the participating elderly had preconceived mental, physical and social attitudes towards elderly HPBs as follows:

There was a high level of elderly' health promotion behaviors; however, a moderate level on dimension of activity and exercise, and mental development must be concerned

According to a focus group, it was found that participants were not concerned about the importance of HPBs, and did not take positive action towards HPBs. Participants had no knowledge to start changing life style according to HPBs. The finding suggested that the training program developed should include an intervention which empowers the participants to put in action their goals, using critical thinking and social support strategies with family ,temple,community ,health volunteers and community health promotion hospital.

During the developmental stage, the researcher together with the stakeholders used the workshop method to explore the model. This process was supervised and implemented by specialised expertise in the areas of the elderly 'health promotion behaviors, particularly activities and exercise, and mental health in aging. A model of Health Promotion Behaviors for elderly experienced mudslide is described as figure 1:

Figure 1: A model of Health Promotion for elderly experienced mudslide



Results showed that the comparison of the HPBs of the participants at pre and both post tests were different at the .001 level of statistical significance. and the second examination was different at .05 level of statistic significance. These results can be described as table 1 and 2:

Table 1:The mean different scores of HPBs between pre test and 1st immediately post tests.

Variables	Pre test before using model		Post test after immediately using model		t-test	p-value
	\bar{X}	S.D	\bar{X}	S.D		
	HPBs	3.62	0.24	4.60		

Table 2:The mean different scores of HPBs, between pre test and 2nd post tests. (after 3 months).

Variables	Pre test before using model		Post test after 3 months using model		t-test	p-value
	\bar{X}	S.D	\bar{X}	S.D		
	HPBs	3.62	0.24	4.62		

Moreover, a qualitative analysis showed that participants satisfied results of this program (model): activities of the model appropriated for their group and could encouraged them to have self-confidence to change their HPBs, and could applied using with their lifestyle to an enhanced quality of life.

V. Discussion:

The results showed that the outcomes improved over the three times data were collected (see table 1 and 2). Moreover, the focus group data results confirmed that the developed intervention was appropriate for the group of the elderly. The model was perceived as highly effective with activities which assisted them to think critically about their HPBs. Consequently, their self-confidence was improved in order to change their HPBs and to apply these behaviors in their daily living.

In the first stage, Pender's Health Promotion Model explained human behaviors by way of biopsychological factors as seen in a holistic perspective (physical, mental and social) when applied to explore their HPBs and related factors. The results from this stage demonstrated that the elderly had a high level of health promoting behaviors. In addition, This focus group data referred to a condition of the elderly in HPBs as being powerless, with the findings showing that they had low ability to perform HPBs. They need to be encouraged

and supported to sustainable activities. (Maton, 2006; Nutbeam,1998). It can be concluded from the first stage that these elderly were powerless to undertake HPBs.

Secondly, as previous mentioned, the model used in this study was developed using the Empowerment concept (Fleury, 1991) integrated with PMT (Rogers, 1983) The model therefore can be effectively promoted and encouraged for elderly to improve HPBs in their daily life pattern.

The concept of the model integration was to enable the elderly to increase their level of self control, helping them to cope with their circumstances in order to achieve the HPBs lifestyle pattern. This concept consisted of four learning processes that elderly might become engaged described as follows:

(1) Analysis of the effects of ageing on the process of health:

This involves the process of providing a person with the knowledge and tools to assess the severity of the effects of ageing processes on his or her health, by using particular information or media to stimulate them to feel the fear of health risk factors including their overall health, hearing, sight, touch from peers, health team, and health media. The process further encourages them to analyse ageing process and threats which might affect their health (Rogers, 1983). They learn from the previous mistakes of HPBs could have an effect on their health (Fleury, 1991). These perceptions encourage them to increase their health awareness and seek a healthy lifestyle (Rogers, 1983).

(2) Evaluation of self-capacity to succeed in HPBs:

The process of gaining perceptions of the benefits of HPBs leads people to understand self-efficacy to HPBs in their lifestyles (Rogers, 1983). Workshop was set up for the elderly to gaining new and specific knowledge in relation to specific topics - "impact of ageing processes on health, and health promotion behaviors" (Rogers, 1983). This is to encourage people to make a decision relative to their HPBs. By taking these steps, a person would be able to accept major changes in order to achieve new HPBs (Fleury, 1991), and to follow his/her intentions to achieve meaningful personal results (Rogers, 1983) in order to meet their objectives on their own (Fleury, 1991)

(3). Undertake the actions leading to HPBs:

Persons try individually to achieve their objectives and to consider the benefits, or lack of, in order to improve their quality of life. They will fulfill their aims if they try to do and adapt their new lifestyle into their daily life. (Fleury, 1991).

(4) Integrate HPBs into normal everyday lifestyle pattern:

The final step that a person actually accepts is to maintain HPBs in their normal lifestyles (Fleury, 1991). The recognition and commitment to this final step is the result of their experiences transferred to new knowledge concepts. They understand and accept that they are empowered to control their health outcome both for the present and future (Fleury, 1991).

This Model is effective because of the involvement and participation of all stakeholders, who hold responsibility for the continued improvement of the quality of life among the elderly people, and following Buddhism way of the community as well for encouraging mental health. (Department of Mental Health, 2019).

This research study and model reflects and adopts the concepts of both the Ottawa Charter (WHO, 1996) and the 2nd Thailand National Ageing Plan 2002 – 2021. Both of these bodies emphasise that strategies established to achieve quality of life for elderly people should be acted on by networking within, and between all government organisations, non-government organisations. If this Model is followed and adopted, it can be implemented harmoniously within the local context and community. The limitation of this study, the small sample size and similar characteristics depended on Thai context have limited to generalized to all groups of elderly people. The results illustrated the experiences and health promotion behaviours based on health promotion model that have limited to use the original results to implement the intervention for others. However, the findings were useful to base of the knowledge on health promotion model for the elderly in flood area with a mudslide as an primary evidences.

VI. Conclusion

This study suggests that the effectiveness of this Health Promotion Model can be used to encourage, and to promote, sustainable health promoting behaviors of the elderly experienced in flood and mudslide area . It may have potential for other groups of the elderly

The assistance and backing of the associated organizations and alliances who are currently involved with ageing populations experienced in flood and mudslide area would be of great assistance to the implementation of this Health Promotion Model at local facilities.

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